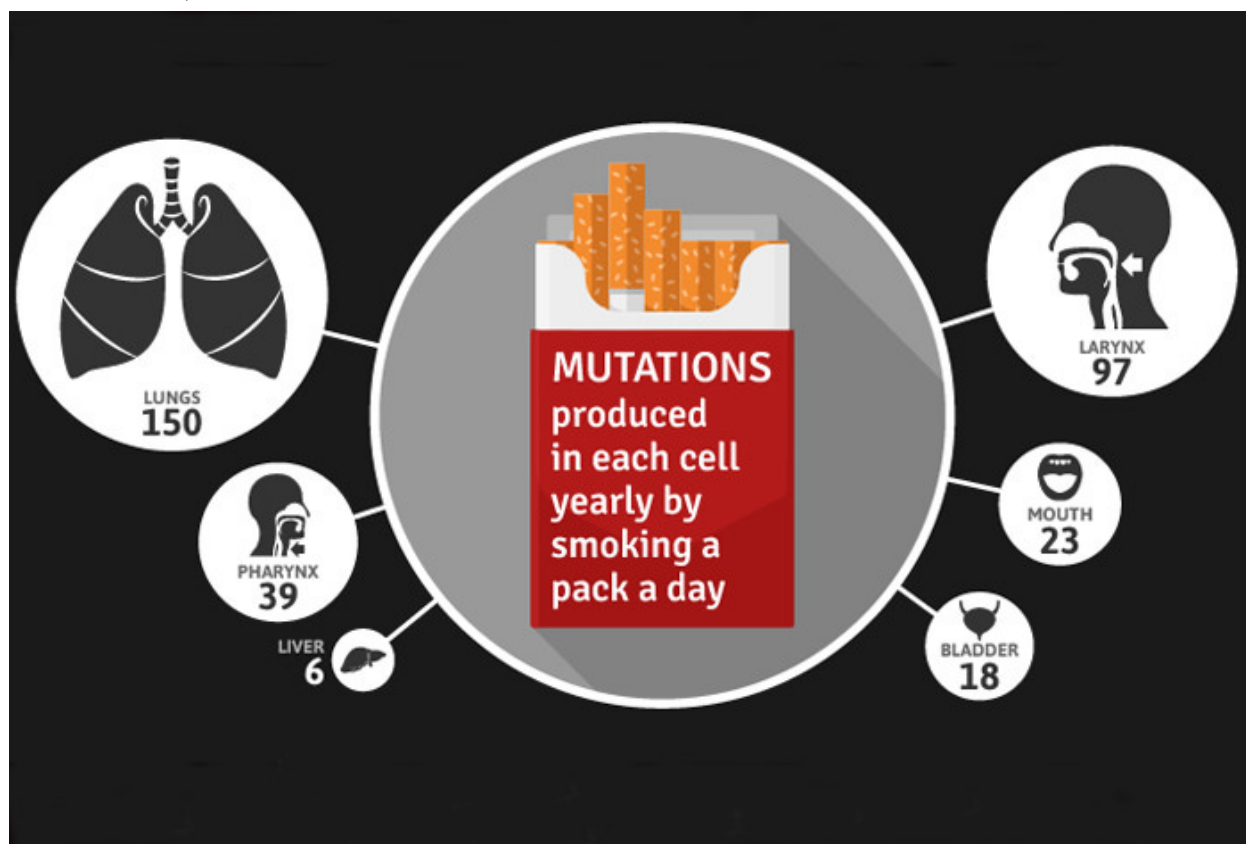


## Smoking a pack a day for a year leaves 150 mutations in every lung cell

November 4, 2016



### Smoking a pack a day for a year leaves 150 mutations in every lung cell

At this point, there's little doubt that smoking is bad for your health. There's a reason they call them cancer sticks: Smoking cigarettes is now known to cause 87 percent of lung cancers and one out of three cancers total, adding up to around 6 million deaths per year worldwide [according to the Centers for Disease Control](#). What's more obscure is how exactly the 60+ carcinogens in tobacco smoke work to do their insidious damage to the lungs, livers and kidneys of smokers and those exposed to secondhand smoke.

To answer that question, researchers from the Wellcome Trust Sanger Institute and the Los Alamos National Laboratory recently examined the DNA of more than 3,000 tumors from the bodies of smokers and nonsmokers. The results, [published this week in the journal Science](#), were sobering: Researchers found deep molecular "signatures" etched

in tumor cells, even in organs that were never exposed to cigarette smoke directly. Each of the signatures, showing how DNA has been damaged, is a potential start point for a future cancer.

[Read the article in Smithsonian Magazine.](#)

By Rachel Kaufman - Nov. 3, 2016.

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